



# FEMA

## *Electrical Retrofit Aids in Hurricane Response*

**Pensacola, FL** - During a major power outage, valuable time is saved through the ability to plug in a generator without having to hotwire it into an electrical panel. This is especially important when quickly connecting power will prevent damage to homes from sewer backup.

Over the course of four years, the Pensacola-based Emerald Coast Utilities Authority (ECUA) has been retrofitting its sanitary sewer lift stations with electrical connections for portable generators. So far, 300 of the 332 lift stations have been retrofitted. ECUA plans to retrofit the remaining lift stations within the next year.

Because the retrofit helps reduce damages during a disaster, a portion of the cost of the project was eligible for a grant provided by the Department of Homeland Security's Federal Emergency Management Agency, under the Hazard Mitigation Grant Program (HMGP) managed by the Florida Department of Community Affairs. The HMGP grant funded the retrofitting of 41 lift stations with a transfer switch and an electrical receptacle connection, along with the flood-proofing of 26 electrical panels located in low-lying areas. The rest was funded by ECUA.

William Ellis, Utility Maintenance Manager for ECUA, estimates that power outages lasting 24 hours at just one lift station can result in a sewer backup costing up to \$5,000 in damages.

Lift stations pump waste from lower to higher elevations for eventual delivery into a wastewater treatment plant. When there is a loss of power, these lift stations stop working. The sewer lines intended to carry sewage away from homes to the lift station may instead cause a backup of effluents into homes. Residents returning to hurricane-damaged or flooded homes will then find an additional, and possibly contaminated, mess to cleanup.

In the past, ECUA workers responded to power outages by using portable pumps loaded onto trucks to bypass lift station pumps, or rewired the lift station electric panels to connect portable generators. To streamline the process, ECUA electricians placed power cable connector receptacles (plug-ins for the generators) on the above-ground electrical systems. They installed transfer switches to make it easy to transfer power from the power company line to the portable generator. In the event of a power failure, ECUA workers can now operate a generator without having to rewire the electrical panels. Likewise, they can unplug and transfer a generator to another lift station in need of power.

"If you get the generator in there quick enough, you can do it before the tank fills in the lift station and it's business as usual," said Utility Equipment Supervisor Wayne Lister.



Escambia County,  
Florida



### Quick Facts

Year:

**2000**

Sector:

**Public**

Cost:

**\$100,043.00 (Actual)**

Primary Activity/Project:

**Retrofitting, Non-structural**

Primary Funding:

**Hazard Mitigation Grant Program (HMGP)**